



The extraordinarily good
**Twin Speed TDS-9.5 Large Drum
Challenge Winch**

The finest high speed, low profile winch in the world developed by
David Bowyer
of
Goodwinch Limited, Devon, England, UK

July 2009

David has led the field for many years now with his enthusiasm for designing, developing and making exceedingly good products even better, using his knowledge of what the serious off roader really expects from their winch.

To this end, David has taken his well-respected TDS-9.5 Goldfish to new heights. It is a well-known fact now that since the launch of his TDS range of winches in December 2007, he has a huge number of satisfied customers right across Europe.

This has always spurred him to make this already full featured winch even better. His latest creation sports the following specification:



In his workshop, David's engineers take a TDS-9.5c Goldfish winch which, in itself represents terrific value, bearing in mind its many standard features, at £389 plus VAT, the winch is completely disassembled and reassembled using a specially manufactured drum with 185mm (7.25") diameter side flanges, giving a synthetic rope capacity of either 150' (46m) of 10mm, or 125' (38m) of 11mm. The latter would be the normal order of the day combining the ideal length, strength and allowance for wear and tear in the harshest of conditions.

During reassembly, the winch is fully commissioned with spacers fitted under the drum supports to allow for the larger drum. All clearances are checked to give optimum performance. This adds £195 plus VAT to the original price.

The next natural addition is to add an 11mm x 125' (38m) Dyneema® Bowrope with a large yellow competition hook, together with an aluminium hawse fairlead for the special extra over cost of £165 plus VAT.

Another uniquely useful addition is their pneumatic freespool actuator kit for £95 plus VAT which can either be run off the vehicle's ARB compressor, if fitted, or they can supply a small compressor with reservoir and switchgear for £120 plus VAT. With this actuator the winch can simply be put into freespool at the touch of a button inside the cab, and locked again upon dumping the air from the air valve, just like operating an ARB locking diff, but the other way round!

*Now comes the greatest innovation of all time to make this extremely versatile winch even more incredible. Goodwinch can add a brilliant additional module known as a **Turbo Power Controller**, which at the touch of a button, on the fly, over-volts the TDS 12 volt motor, similar to a Bowmotor, to give 2 speeds, quite fast and very fast!*



TDS-9.5 Large Drum with
125' of Dyneema® Bowrope

David follows on saying:

Essentially, it works with two batteries, the existing vehicle battery, and a second, similarly large capacity one which is not earthed. The two similar batteries are connected with the [Turbo Power Controller](#) in-between and in normal use they are connected in parallel, being charged by the vehicle's 12 volt charging system and running the winch in 12 volts.

At the flick of a switch in the cab, you put the controller into standby for running the winch with the two batteries in series, giving about 24 volts, but only when you operate the winch hand control. A sensor cable fitted to the Albright, or similar solenoids, tell the controller to wake up to pushing out 24 volts because the 'winch in' control has been pressed.



If you are thinking of powering your Bowmotored winch in 24 volt, please consider this method because I prefer to run the winch this way because you are giving maybe 200 amps to run the winch in 12 volts which is good enough for most winching scenarios, but on the fly operate the master switch in the cab and hey presto, you have got real speed!

However, as you are still charging at 12 volts, the winch voltage will drop after some serious winching from 24 - 26 volts, down to 18 - 22 volts which 12 volt TDS or Bowmotors seem to be happy with. So, you are not really over volting too much for too long.



What will damage motors, is over speeding which you can get when lowering out under load, too quickly and can explode the armature as the speed of it increases alarmingly! However, our [Turbo Power Controller](#) is set so, that when required, you can only 'winch in' in 24 volts, with the batteries in series and pay out with the batteries in parallel, i.e. back to 12 volts.

The 12 volt alternator is always charging both batteries when they are in parallel, but only the vehicle battery whilst the winch is in use. When you take your finger off the winch control, the alternator immediately pumps charge into the auxiliary battery again and should re-balance both batteries.

The cost of the [Turbo Power Controller](#) complete with the cab-switching unit and sensing harnesses between the TDS sealed solenoids, the switchgear and the controller unit is £195 plus VAT. If you order everything above, we are happy to supply the heavy-duty harnesses to the two batteries and winch with our compliments.



Twin Speed TDS-9.5 Large Drum Challenge Winch In Use

Since we started using our TDS-Goldfish Winches in December 2007, their performance has always amazed both myself and the clients that use them. The standard winch made to our specification is absolutely brilliant with strong, tall, heavy duty drum supports with 'V' ring seals fitted into them bearing onto the drum flanges.

Add to this, as the motor drum supports have no gaps between the drum bearing and the windings of

the motor, you end up with a pretty good waterproof winch. The motor is exceptionally good, based on our Bowmotor, which has all the reliability that one can wish for. The sealed solenoids are in fact close copies of our Albrights, so they are good too.

The gearbox and double tapered brake unit is not only good, but exceptional in that the gears are really very well made, machined and assembled into three planet sets of the highest possible quality. The beauty of a well designed planetary gearbox ensures that a good proportion of all the teeth are in contact with its partner gear cog all the time which gives a lot of strength.

This type of gearbox is extremely efficient in use as all the gears are balanced in that the drive shaft from the motor, through the drum and to the back end of the gearbox drives the smallest planet set in the middle and increases the torque through all nine planet gears evenly to power the drum with extremely little backlash.

The double tapered brake works brilliantly too and only locks up when the cams operating it sense there is a heavy load with the motor stopped.

Even the freespool lever is a delight to use and locks the outer gear ring in any one of eight positions in a positive manner.

So with all these features in an off-roaders' TDS-9.5 with an overall gear ratio of 173:1 at a cost of only £389 plus VAT, what more can one ask for.

Well, there are many people in all walks of life, wanting something even better than the best. And what a fabulous product to start with. I know, that beyond all shadow of doubt, that I have made an incredibly good winch, the best low profile winch available anywhere in the world.



As an off-roader, and one that teaches the art of handling a vehicle in off road conditions, and winching techniques, one of the problems that can occur is accidentally driving over the winch rope when gaining grip with the road wheels whilst winching and driving.

I know from experience that the ideal speed of a winch rope needs to be at least 50' (15m) per minute, or better still 60' (18m) to retrieve the rope back onto the drum when gaining grip as invariably the ruts get shallower or you start gaining grip through momentum in the mud or on wet grass.

If you stop and think about it, off roading is sometimes about momentum. Driving as 'slowly as possible' is the saying we use for keeping out of trouble and staying on the track! However, driving as 'fast as necessary' when negotiating deep muddy ruts, crossing deep mud or driving on wet grass, with a bit of momentum, but not too much! ensures you get through in these conditions.

It therefore goes without saying, if your winch is too slow in light to medium pulls you will take ages to get through the section and when you do gain grip with the wheels you are forced to stop again as the likelihood will be to drive over the rope and get it trapped either under the vehicle or around a wheel.

Our twin speed winch gives real benefit in a number of conditions including very fast retrieval of the rope back onto the drum, of between 90' - 100' (27m - 30m) per minute.

When the going is really tough you winch in 12 volt mode, as you have always done and as the conditions ease a bit, or you start gaining speed, you simply flick the switch, on the fly, into the 24 volt mode and hey presto, you move onwards faster. Our Turbo Power Controller has taken a long time to perfect and I am really pleased with it. I can simply tell you, it will change the way you drive in sticky conditions, and the way you can winch out and through with ease.

[If you are reading this on our website, please click here to have a look at the short video clip of the winch in action.](#)

Of course, with this extra speed you could do with a greater drum capacity. I have to say, normal winches with tie rods too close to the top of the rope filled drum has always made me wanting for larger drums and higher tie rods. And that's how, way back in 1995 I designed and manufactured our G10 and G12 winches over a 12 year period. Yes, these were very good. The only downside to these winches was

the cost of manufacturing in small numbers and the drag brake was in the drum which of course created heat when lowering out, which was no good when using synthetic rope. Not only is our TDS brake on the end of the winch, but it only operates when you take your finger off the hand control, so another plus for TDS winches.

Finally, back to my impressions of using our twin speed TDS-9.5 Goldfish winch with a large drum fitted with 125' (38m) of 11mm Dyneema® Bowrope off road. Its simply brilliant. Add to this, our Pneumatic Freespool actuator and you have sheer brilliance! Just believe me, you have lots of control and oodles of power in the 12 volt mode, and lots of speed in the 24 volt mode, to drag you through the mire with power to boot.

What can I say, its just an incredible feeling to have so much control over your winch to suit the conditions you are in.

I've been testing this system all around our off road training and demonstration course and found the whole thing unbelievable.

One huge smile was using a swingaway snatch block in high speed and the Ninety didn't bat an eyelid on our steepest 45 degree climb.

Just think, I've been winching for nearly 40 years and I'm now enjoying it more than ever.

On lookers simply stare in amazement when I press the go-faster button!

The really serious enthusiast / challenge competitor will probably do what I am doing, and that is monitor the main vehicle battery, auxiliary battery and winch feed with 0 – 30 volt meters and a 0 – 300 amp meter connected with a shunt in the winch positive feed. This way you can get the optimum performance from your battery and alternator setup.

To summarise, here are the prices again:

Take a 12 volt TDS-9.5c at	£389
And add:	
• Commissioning and fitting large drum	£195
• 11mm x 125' (38m) Dyneema Bowrope with a large yellow competition hook and an aluminium hawse fairlead – Special Price	£165
• Turbo Power Controller	£195
• Pneumatic Freespool Actuator	£95
• Defender Winch Bumper to Suit	£199

All prices are plus carriage and VAT

The following information taken during testing and evaluation should be useful to those interested in how good this system is.

in 12 volts

in 24 volts

Rated Line Pull	9,500 lbs	More!
Motor	5.6 HP or fit a Bow '2' @ 6.8HP	More!
Gearing	Heavy Duty 3 Stage Planetary	
Gear Ratio	173:1	
Freespooling Clutch	Rotating Ring Gear	
Freespool Operation	Air Actuated (optional)	
Braking	Automatic Double Taper	
Dyneema® Bowrope	Suggest 11mm x 125' (38m) or 10mm x 150' (46m)	
Dimensions	615mm x 185mm x 266 mm high (including solenoids)	
Drum Diameter	63.5mm (2.5")	
Drum Flange Diameter	185mm (7.25")	
Drum Length	229 mm (9")	
Weight with Dyneema® Bowrope and Aluminium Hawse	30 Kgs	
Switching Method	5m (17') Rubber Remote Handset	
Fairleads	Aluminium Hawse	
Pulley Block	Swingaway	
Wiring Harness to the Turbo Power Controller	As Required	
Alloy Safety Hook	Large Yellow Competition Hook	
Turbo Power Controller	Heavy Duty Sealed Unit	
PERFORMANCE		
No Load Speed	56' / min (faster with a Bow '2')	90' - 100' per min
Current Draw	48 amps	60 amps



TDS-9.5 Large Drum with 150' of Dyneema® Bowrope

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